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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,154	08/27/2004	Guangqiang Jiang	A382-USA	5153
24677	7590	12/20/2005	EXAMINER	
ALFRED E. MANN FOUNDATION FOR SCIENTIFIC RESEARCH PO BOX 905 SANTA CLARITA, CA 91380			SPEER, TIMOTHY M	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/711,154

Applicant(s)

JIANG, GUANGQIANG

Examiner

Timothy M. Speer

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 6-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/04 & 08/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-5, drawn to an article, classified in class 428, subclass 702.
 - II. Claims 6-12, drawn to a method, classified in class 427, subclass 523.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the claimed product can be made by a materially different process, such as CVD, laser ablation or pack cementation.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Gary Schnittgrund on October 27, 2005, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-5. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Information Disclosure Statement

5. The information disclosure statements submitted on 09/02/04 and 08/27/04 have been considered and made of record. Copies of the 1449's initialed, dated and signed by the examiner are included herewith.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert (*Surface Stabilization of Y-TZP*, British Ceramic Proceedings, 34, pp. 157-160, 1984) in view of Hida (USPN 5,192,720).

Schubert teaches articles comprising an yttria stabilized tetragonal zirconia polycrystal substrate and a coating of a stabilizing oxide formed on the surface thereof (see abstract, for instance). Regarding the recitation of the process limitation "ion beam assisted deposition," this limitation is being given no patentable weight, since an invention recited in a product-by-process claim is a product and not a process. The method by which a claimed product may be made is not germane to patentability of the claimed product unless applicant demonstrates that the recited process step produces a materially different product. In the present case, no such evidence has been adduced. Since the products of Schubert were compacted to a final density of 98 % of theoretical and were fully cubic (page 158, second and third paragraphs), it is the Examiner's position that the coatings are "about 1.0 percent" porous, as presently claimed.

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Additionally, Schubert teaches coatings having a grain size of 0.7 micron, within the claimed range of less than "about" 0.5 microns. Moreover, Schubert teaches that the coating layer has a thickness of 5 microns, within the presently claimed range of 1.6 to 10 microns.

Schubert teaches coating layers comprising "stabilizing oxides," i.e., stabilizing for zirconia, such as yttria, ceria, calcia and magnesia (abstract and page 158, last paragraph; "e.g., CeO_2 , MgO and CaO " in reference to "stabilizing oxides" other than yttria). Hida teaches that alumina is a stabilizing oxide with respect to zirconia and is functionally equivalent to magnesia, ceria, calcia and yttria (col. 27, lines 1-4, for instance). Therefore, it would have been obvious to one having ordinary skill in the art to employ alumina in the coating layer of Schubert, since Schubert discloses that such layers should be formed of oxides that are stabilizing for zirconia, such as yttria, magnesia, ceria and calcia, and Hida teaches that alumina is functionally equivalent to yttria, magnesia, ceria and calcia with respect to stabilizing zirconia.

In view of the foregoing, it is the Examiner's position that claims 1-4 are prima facie obvious in view of the applied combination of references.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert in view of Hida as applied to claims 1-4 above, and further in view of Toibana (USPN 4,507,224).

Schubert in view of Hida was discussed above and fails explicitly to teach that the zirconia is stabilized with about 3% yttria. Toibana teaches that zirconia may be stabilized with 3% yttria (col. 5, lines 28-30). Therefore, it would have been obvious to one having ordinary skill in the art to employ about 3% yttria in the yttria stabilized zirconia of Schubert, since Toibana teaches that 3% yttria is effective to stabilize zirconia. Accordingly, instant claim 5 is considered to be prima facie obvious in view of the applied combination of references.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1, 2, and 4 of copending Application No. 10/853,922. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 4 of the copending application is directed to a stabilized zirconia wherein the outer surface has a hermetic coating. A "hermetic coating" clearly encompasses the presently claimed porosity of less than about 1.0 percent. Claim 2 of the copending teaches that the zirconia may be stabilized with one of four oxides, including zirconia. Therefore, it would have been obvious to one having ordinary skill in the art to stabilize the zirconia of claim 1 with zirconia. Finally, in looking to the copending applications to define the term "hermetic coating" used in claim 4, the specification exemplifies alumina (paragraph [0020]). Therefore, since the phrase "hermetic coating" includes alumina, it would have been obvious to one having ordinary skill in the art to employ alumina as the hermetic coating, as presently claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Conclusion

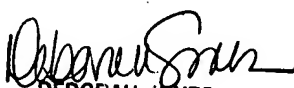
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy M. Speer whose telephone number is 571-272-8385.

The examiner can normally be reached on M-Th, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Timothy M. Speer


DEBORAH JONES
SUPERVISORY PATENT EXAMINER